

Frequency Mixer

Level 7 (LO Power +7dBm) 2 to 750 MHz

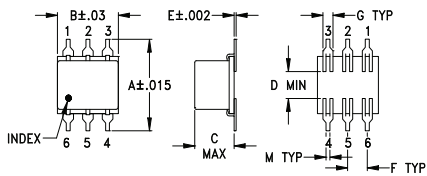
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA
Permanent damage may occur if any of these limits are exceeded	

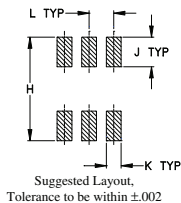
Pin Connections

LO	1
RF	4
IF	5
GROUND	2,3,6

Outline Drawing



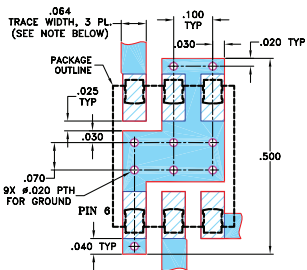
PCB Land Pattern



Outline Dimensions ($\frac{\text{inch}}{\text{mm}}$)

A	B	C	D	E	F	G
.400	.31	.200	.10	.010	.100	.050
10.16	7.87	5.08	2.54	0.25	2.54	1.27
H	J	K	L	M		wt
.420	.120	.060	.100	.020		grams
10.67	3.05	1.52	2.54	0.51		0.55

Demo Board MCL P/N: TB-44+
Suggested PCB Layout (PL-083)



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.030" $\pm$ 0.002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

 DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

 DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Features

- low conversion loss, 5.83 dB typ.
- excellent L-R isolation, 45 dB typ.

Applications

- HF/VHF/UHF
- instrumentation
- cellular

Electrical Specifications

FREQUENCY (MHz)		CONVERSION LOSS (dB)				LO-RF ISOLATION (dB)						LO-IF ISOLATION (dB)					
LO/Rf	IF	Mid-Band			Total Range Max.	L		M		U		L		M		U	
$f_c - f_u$		$\bar{X}$	σ	Max.		Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.
2-750	DC-750	5.83	.21	7.5	8.5	70	45	45	28	38	22	60	45	40	25	30	20

1 dB COMP.: +1 dBm typ.

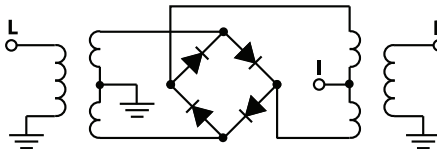
L = low range [f_L to $10 f_L$]
m= mid band [$2f_L$ to $f_H/2$]

M = mid range [$10 f_1$ to $f_1/2$] U = upper range [$f_1/2$ to f_1]

Typical Performance Data

Frequency (MHz)		Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)
RF	LO	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm
2.00	32.00	6.15	77.45	62.05	1.16	2.41
4.00	34.00	5.93	77.30	61.60	1.10	2.36
5.00	35.00	5.89	76.89	61.49	1.08	2.47
10.00	40.00	5.90	74.36	60.26	1.09	2.39
20.00	50.00	5.87	69.48	56.77	1.10	2.40
50.00	80.00	5.90	62.05	50.51	1.11	2.40
100.00	70.00	5.85	55.01	45.08	1.15	2.41
101.73	71.73	5.87	55.00	44.99	1.21	2.41
200.00	170.00	5.82	46.91	40.52	1.23	2.36
201.47	171.47	5.83	46.83	40.31	1.31	2.37
301.20	271.20	5.81	42.24	36.71	1.39	2.32
351.07	321.07	5.79	40.24	34.89	1.42	2.34
375.00	345.00	5.79	39.86	34.22	1.49	2.46
400.93	370.93	5.74	39.23	33.67	1.58	2.54
500.00	470.00	5.85	37.51	30.15	1.59	2.56
500.67	470.67	5.84	37.49	30.16	1.70	2.57
600.40	570.40	5.98	36.08	29.20	1.83	2.92
700.13	670.13	6.31	33.78	27.21	2.01	3.30
725.07	695.07	6.49	33.46	26.43	2.07	3.35
750.00	720.00	6.55	33.11	25.85	2.13	3.43

Electrical Schematic



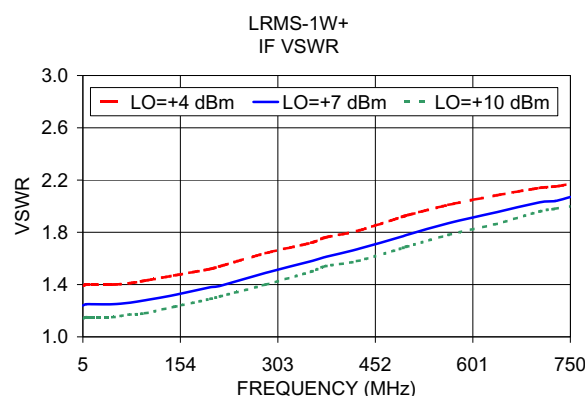
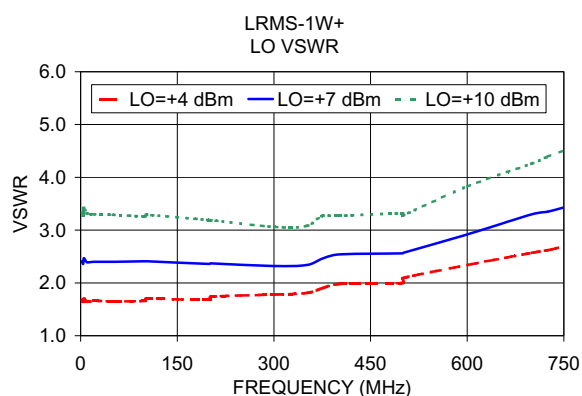
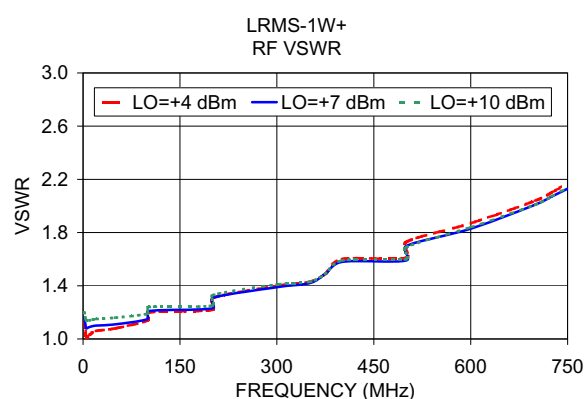
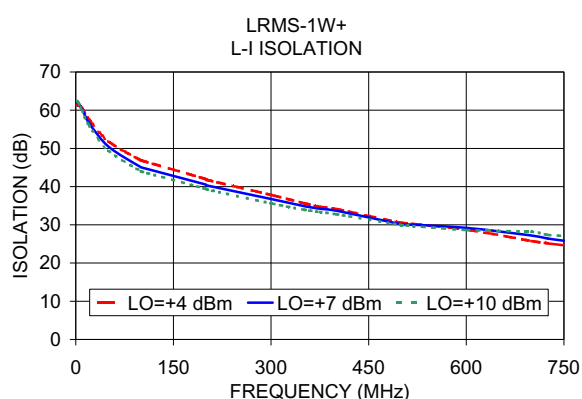
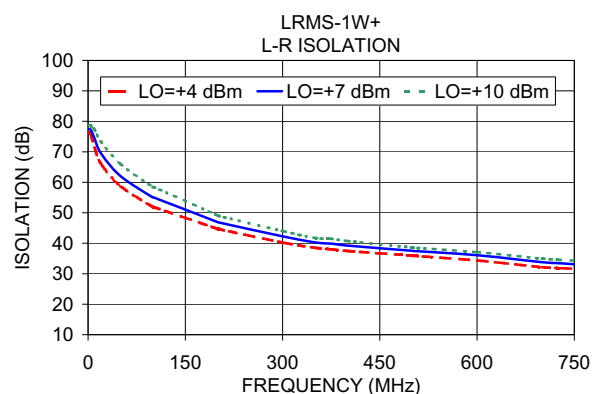
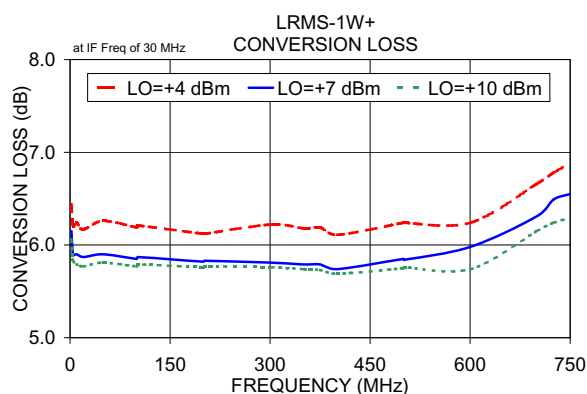
CASE STYLE: QQQ130
PRICE: \$6.75 ea. QTY (1-9)

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

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Notes

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